

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1-25 (canceled)

26. (original) A method for synthesizing a chemical species comprising
- a. identifying a plurality of reaction sites upon a first surface of a reaction support;
 - b. jetting upon a first set of said reaction sites, drops of fluid comprising a first chemical reactant species; and
 - c. jetting upon a second set of said reaction sites, drops of fluid comprising a second chemical reactant species.
27. (original) The method of claim 26 wherein said reaction support is porous.
28. (original) The method of claim 27 wherein the porous support comprises controlled pore glass.
29. (original) The method of claim 27 wherein the porous support comprises a porated solid.
30. (original) The method of claim 27 wherein the porous support comprises fibers having a substantially common axis normal to the first surface.
31. (original) The method of claim 27 wherein the porous support is an anisotropic membrane.
32. (original) The method of claim 26 wherein the support comprises a second surface substantially parallel with the first surface, the support being capable of transporting fluid contacting the first surface to the second surface of the support in a direction substantially normal to the first surface.

33. (original) The method of claim 26 further comprising collecting fluid from the first surface on a collection plate adjacent to the second surface.

34. (original) The method of claim 33, wherein said collection plate has a plurality of wells for receiving said fluid.

35. (original) The method of claim 26 under control of a digital control means.

36. (original) The method of claim 26 wherein said first and second sets are substantial identical.

37. (original) The method of claim 26 wherein said synthesis is of an oligonucleotide.

38. (original) A method for synthesizing a chemical species comprising

- a. bonding an initial reaction fragment to a first surface of a reaction support, said first surface having a plurality of preselected reaction sites;
- b. jetting upon a first set of said reaction sites a first chemical reactant species to effect a chemical reaction with the initial reaction fragment at the first set of reaction sites; and
- c. jetting upon a second set of said reaction sites a second chemical reactant species to effect a chemical reaction with either
 - i. the initial reaction fragment at sites not in common with said first set of reaction sites, or
 - ii. the reaction product of the initial reaction fragment and the first chemical reactant at those sites which are in common with said first set of reaction sites.

39. (original) The method of claim 38 further comprising

d. jetting upon a further set of said reaction sites a further chemical reactant species, which may be the same as or different from any prior chemical reactant species, to effect a chemical reaction with either

i. the initial reaction fragment at sites not in common with any prior set of reaction sites, or

ii. the reaction product of the initial reaction fragment and the additional chemical reactants delivered to sites of said further set.

40. (original) The method of claim 39 performed iteratively.

41. (original) The method of claim 38 further comprising recovering the chemical synthesized.

42. (original) The method of claim 38 wherein said synthesis is of oligonucleotide.

43-51. (canceled)

52. (withdrawn) A method for chemical synthesis comprising

a. providing a reaction support having first and second surfaces;

b. transporting to selected sites on the first surface of said reaction support a plurality of chemical reagents, the chemical nature, amount and sequence of which is predetermined and under the control of a control means to effect synthesis of a chemical species;

c. transporting said chemical species through the reaction support to the second surface thereof;

d. providing a collection plate having a plurality of collection wells adjacent to said second surface such that the chemical species is recovered in a well or wells.

53. (withdrawn) The method of claim 52 further comprising challenging said chemical species in an assay.